

Is the symbiotic recurrent nova T CrB late? Recent photometric evolution and comparison with past pre-outburst behaviour

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ABSTRACT

T CrB is a symbiotic recurrent nova that last erupted in 1946. Given its recurrence time-scale of approximately 80 yr, the next outburst is eagerly anticipated by the astronomical community. In this work, we analyse the optical light curves of T CrB, comparing recent photometric evolution with historical data to evaluate potential predictive indicators of nova eruptions. Although the ‘superactive’ phases preceding both the 1946 and anticipated eruptions are strikingly similar, the subsequent photometric behaviour differs. We find that the decline in brightness observed in 2023, interpreted by some as a ‘pre-eruption dip’, deviates from the deep minimum recorded prior to the 1946 event and does not reliably predict the eruption timing. Recent photometric and spectroscopic observations indicate that the system is returning to a high-accretion state. Given this, an eruption may be imminent, even without distinct precursors. While the next eruption of T CrB will be a major scientific event, its expected peak brightness of $V \sim 2$ mag highlights the importance of setting realistic public expectations for what will be a visually modest, yet astrophysically very significant, celestial event.

Key words: binaries: symbiotic – stars: individual: T CrB – novae, cataclysmic variables.

1 INTRODUCTION

Nova eruptions are driven by thermonuclear runaways on the surface of white dwarfs accreting material from a binary companion. In principle, all novae are recurrent, as the eruptions can repeat once sufficient mass has been accreted. However, recurrence time-scales can span many centuries or longer, and only those systems that have exhibited multiple eruptions within observational time-scales, typically decades to a century, are classified as recurrent novae (RNe). For comprehensive reviews on novae and RNe, see e.g. Chomiuk, Metzger & Shen (2021) and Darnley (2021).

T Coronae Borealis (T CrB) is 1 of 11 known RNe in the Milky Way (Darnley 2021; Schaefer 2022; Schaefer et al. 2022; Shara

et al. 2024a) and one of only four hosting a red giant donor (T CrB, RS Oph, V745 Sco, and V3890 Sgr), making it a member of the symbiotic subclass of RNe. Among RNe, it is the brightest in quiescence ($V \sim 9.8$ mag; Schaefer 2023b). The binary system consists of a massive white dwarf that accretes material from an M4III-type red giant companion, in a circular orbit with a period of 227.6 d (Hinkle et al. 2025; Planquart, Jorissen & Van Winckel 2025). The mass of the white dwarf has been estimated to be close to the Chandrasekhar limit ($M_{\text{WD}} \approx 1.37 M_{\odot}$; Hinkle et al. 2025), while the red giant, with a mass of $\sim 0.69 M_{\odot}$ and a radius of $65 R_{\odot}$ (Hinkle et al. 2025) fills its Roche lobe, as evidenced by prominent ellipsoidal variability (with an amplitude of ~ 0.3 mag in V). The system lies at a distance of approximately 890 pc (Bailer-Jones et al. 2021; Gaia Collaboration 2023).

T CrB has experienced two confirmed, very fast nova eruptions, in 1866 and 1946, both reaching a visual magnitude of approximately

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$V \sim 2$ mag (Pettit 1946; Schaefer 2023b). The sharp rise (about 8 mag from the quiescent level to peak brightness) occurred on a time-scale of just a few hours, followed by a rapid decline in brightness, with the system fading by 2, 3, and 6 mag within 3, 5, and 12 d, respectively (Schaefer 2023b). Historical records also suggest a highly probable earlier outburst in 1787 and a more uncertain event recorded in 1217 (Schaefer 2023a). The ~ 80 -yr interval between the confirmed eruptions provides a tentative recurrence time-scale, indicating that a new outburst may occur very soon.

The system is currently being monitored by numerous observational campaigns, driven by similarities between its recent photometric and spectroscopic behaviour and that observed prior to the 1946 eruption (mainly so called ‘superactive’ phase and the ‘pre-eruption dip’). These parallels have led several authors to conclude that another nova outburst is imminent, with predicted eruption dates ranging between 2023 and 2026 (e.g. Munari, Dallaporta & Cherini 2016; Luna et al. 2020; Maslenikova et al. 2023; Schaefer 2023b; Toalá et al. 2024).

As a result, a global observing effort is currently underway, involving both professional and amateur astronomers, with the aim of capturing the next eruption in unprecedented detail across all accessible wavelengths and with virtually every available instrument. This will yield data with a level of precision, cadence, and wavelength coverage that has never been achieved for previous eruptions of T CrB, nor for any other object of this class, opening a unique window for new discoveries and for explaining the peculiarities of T CrB. Among other things, T CrB is predicted to become the brightest classical or recurrent nova ever observed in X-rays, with two expected X-ray episodes (Starrfield et al. 2025), including an early X-ray flash, so far seen only in the classical nova YZ Ret (König et al. 2022). Due to strong shocks, it is also expected to be a prominent source of very high energy γ -rays, similar to RS Oph (Acciari et al. 2022; H. E. S. S. Collaboration 2022).

Infrared spectroscopy, including integral field unit spectrographs, can be used to study nucleosynthesis and the structure of the ejecta (see Starrfield et al. 2025), while infrared interferometry will allow spatially resolved studies of the ejecta as it expands (e.g. Otolakowska-Hypka 2025). High-resolution optical and infrared imaging may also enable the detection of light echoes from the recently discovered nova superremnant surrounding T CrB (Shara et al. 2024b). While fluorescent light echoes are unlikely to be detectable according to the authors, dust-scattered continuum echoes might be observed, probing the distribution and properties of the circumstellar dust.

It will also be interesting to investigate the impact of the eruption on the orbital period of the system. Schaefer (2023b) reported a significant period change after the 1946 eruption based on photometric data. Now, for the first time, we will have the opportunity to compare precise spectroscopic orbital solutions before and after an eruption. Finally, the anticipated brightness and accessibility of the system will also make it a unique opportunity for public engagement in transient astronomy.

In this work, we present and analyse new photometric observations of T CrB obtained with the global network of telescopes coordinated using BHTOM.space¹ tool, complemented by archival data from the data base of the American Association of Variable Star Observers² (AAVSO) and the literature. Our aim is to characterize the current behaviour of the system in the context of its historical evolution, with

Table 1. Total number of observations in each photometric band and the corresponding range of covered Julian Dates (JD – 2 400 000).

Filter	BHTOM	Range	AAVSO	Range
<i>B</i>	2524	59 927–60 762	119 289	53 076–60 782
<i>V</i>	5916	59 927–60 766	121 147	41 833–60 782
<i>R</i>	3004	59 927–60 766	19 022	53 823–60 781
<i>I</i>	3629	59 927–60 766	14 729	53 076–60 780
Vis.	–	–	139 012	2 744–60 782

particular attention to the superactive phase and reported pre-outburst signatures. We show that if the evolution during the superactive phase is indeed causally linked to the nova eruption and follows a consistent pattern between outbursts, the eruption should have already occurred. Conversely, the decline in brightness observed around 2023, interpreted by some authors as a pre-eruption dip, does not exhibit the same characteristics as the evolution preceding the 1946 eruption.

2 OBSERVATIONS

2.1 BHTOM

BHTOM (Black Hole Target and Observation Manager) is an open-access, community-driven, web-based system for managing and coordinating time-domain astrophysical observations, built upon the Las Cumbres Observatory’s TOM Toolkit (Street et al. 2018). Designed to be flexible and extensible, BHTOM enables researchers to efficiently track, prioritize, and follow-up on a wide variety of transient and variable phenomena.

It supports a diverse range of targets, including supernovae, tidal disruption events, X-ray binaries, novae, gravitational microlensing events, variable stars, and quasars. BHTOM integrates tools for scheduling observations, ingesting new alerts, and visualizing and analysing light curves. It can automatically process images from more than 130 telescopes worldwide, ranging from 0.2-m to 2.5-m in diameter, by performing high-quality point spread function (PSF) photometry and standardizing the results to *Gaia* synthetic photometry. For further details and examples of use, see e.g. Zieliński et al. (2019), Merc et al. (2020), Wyrzykowski et al. (2020), Rybicki et al. (2022), Nagy et al. (2023), and Maskoliūnas et al. (2024).

BHTOM is a free and open platform that serves the global astronomical community by optimizing follow-up efforts and maximizing the scientific return from both new observations and historical data extracted from numerous public surveys. Thanks to its simplicity and automation in data handling and processing, BHTOM is a valuable tool for both professional astronomers and amateur observers alike.

T CrB has been monitored by the BHTOM network of telescopes since December 2022. In this work, we use data collected through the end of March 2025 (see Table 1). Table 2 lists all telescopes that contributed to the BHTOM data set. Although the data were collected using a variety of filters, we only utilize observations standardized to the Johnson–Kron–Cousins *BVRI* system in this study.

The BHTOM data were cleaned by removing measurements affected by saturation. Outliers were filtered by modelling the light curves in each band with a sinusoid corresponding to the period of ellipsoidal variability (i.e. half the orbital period of the system), with the time of minimum set to MJD 59096.6031. Data points deviating by more than 0.25 mag from the fitted curve were excluded. This filtering step rejected approximately 10 per cent of the measurements in each band.

¹<https://bhtom.space>

²<https://www.aavso.org>

Table 2. List of the BHTOM telescopes contributing to this work.

Telescope	Diameter (m)	Location
ASV Telescope Milanković	1.40	Astronomical Station Vidojevica, Astronomical Observatory, Belgrade, Serbia
60-cm ASV telescope	0.60	Astronomical Station Vidojevica, Astronomical Observatory, Belgrade, Serbia
ASV Telescope Meade	0.40	Astronomical Station Vidojevica, Astronomical Observatory, Belgrade, Serbia
Sky-watcher quattro	0.25	Adonis Observatory, Belgium
ASA DM160	0.60	Adiyaman Observatory, Turkey
Schmidt 67/92 Telescope	0.91	Padova Astronomical Observatory, Italy
Białków Large Telescope	0.60	Astronomical Institute, University of Wrocław, Poland
1.23-m telescope on Calar Alto	1.23	Calar Alto Astronomical Observatory, Spain
Meade SSC-10	0.25	Flarestar Observatory, Malta
GeoNAO SCTelescope	0.36	Georgian National Astrophysical Observatory, Georgia
GoChile GoT1	0.40	El Sauce Observatory, Chile
Horten 0.68-m	0.68	Horten Local Observatory, Norway
Kryoneri telescope	1.20	Kryoneri Observatory, National Observatory of Athens, Greece
Las Cumbres Observatory HO40	0.40	Haleakala High Altitude Observatory, United States
Las Cumbres Observatory MCD40	0.40	McDonald Observatory, United States
Las Cumbres Observatory TO40	0.40	Teide Observatory, Spain
35-cm Maksutov	0.35	Moletai Observatory, Lithuania
OAUJ-CDK500	0.50	Obserwatorium Astronomiczne Uniwersytetu Jagiellońskiego, Poland
TSC90	0.90	Piwnice Observatory, Institute of Astronomy of the Nicolaus Copernicus University in Toruń, Poland
CDK700	0.70	Planetarium Śląskie, Poland
R-COP Celestron C14	0.35	Perth Observatory, Australia
ROAD ODK 40-cm f6.8	0.40	Remote Observatory Atacama Desert, Chile
RRRT	0.60	Fan Mountains Observatory, United States
SARA-KP	0.91	Kitt Peak, United States
SOA RC16	0.41	Szkołne Obserwatorium Astronomiczne, Bolesławiec, Poland
0.6-m Cassegrain Zeiss	0.60	Mt. Suhora Observatory, Poland
SUTO-Otivar	0.30	Silesian University of Technology Observatories, Spain
Telescope Joan Oró	0.80	The Montsec Astronomical Observatory, Spain
20-cm SCT Telescope	0.20	Znith Astronomy Observatory, Malta

2.2 Other sources

Our photometry is complemented by B , V , R , I , and visual observations from the data base of AAVSO (Kloppenborg 2025). In total, the light curves comprise 413 199 individual observations (see Table 1), with the visual observations available since 1866.

Historical data are taken from the comprehensive compilation by Schaefer (2023b), which includes literature B and V observations, additional visual data, and photographic measurements calibrated to the B band from archival plates from the Harvard College Observatory, Bamberg Observatory, and Sonneberg Observatory. Combined with the AAVSO data and our own observations, these data trace the photometric evolution of T CrB from its outburst in 1866 to the present.

3 RECENT EVOLUTION

We are conducting regular photometric monitoring of T CrB, with data processed through the BHTOM system (see Section 2.1). Observations in the B , V , R , and I bands are shown in Fig. 1.

Fig. 1 presents the photometric evolution of T CrB from late 2006 to 2025. At longer wavelengths (R and, particularly, I), the light curves are dominated by ellipsoidal variability throughout the entire interval. This variability arises from the tidal distortion of the Roche lobe-filling giant and results in a modulation with a period of half the orbital period. The superactive accretion phase, that began in late 2014 and ended in 2023 (Munari et al. 2016; Munari 2023a), is clearly visible at shorter wavelengths, most notably in the B band, where the system appears more than 1 mag brighter on average compared to the preceding years. Several individual brightness maxima are evident and are independently confirmed by other studies (e.g. Munari 2023a;

Munari et al. 2024). From 2022 onwards, ellipsoidal variations once again become clearly detectable in the B light curve. After returning to quiescent brightness levels in 2023, the system began to brighten again in 2024, though it has not yet reached the levels characteristic of the previous superactive phase.

The increased brightness during the superactive stage is also present in the V band, albeit with smaller amplitude, and the ellipsoidal modulation remains detectable throughout most of the interval. This is consistent with the larger contribution of the red giant to the total flux in V , where it is ~ 1.6 mag brighter than in the B band (Iłkiewicz et al. 2023). Some individual flares are also discernible in the V light curve, most notably the event observed in 2016. After the end of the superactive phase, the system again reached quiescent brightness in V , followed by a slight rise in 2024.

A comparison between the B and V light curves confirms that enhanced activity phases are more prominent at shorter optical wavelengths. Interestingly, in addition to the superactive phase, the B -band data reveal two earlier episodes of moderately increased brightness around 2009 and 2012. While the system did not by far reach the same magnitudes as during the superactive phase, these intervals stand out clearly above the surrounding quiescent levels and are not evident in the other filters.

4 DISCUSSION

4.1 The superactive phase as a predictor of the nova outburst

The long-term light curves of T CrB in the V and B bands, covering the period from 1866 to the present, are shown in Fig. 2. Both nova outbursts are clearly visible in the V -band data. The B -

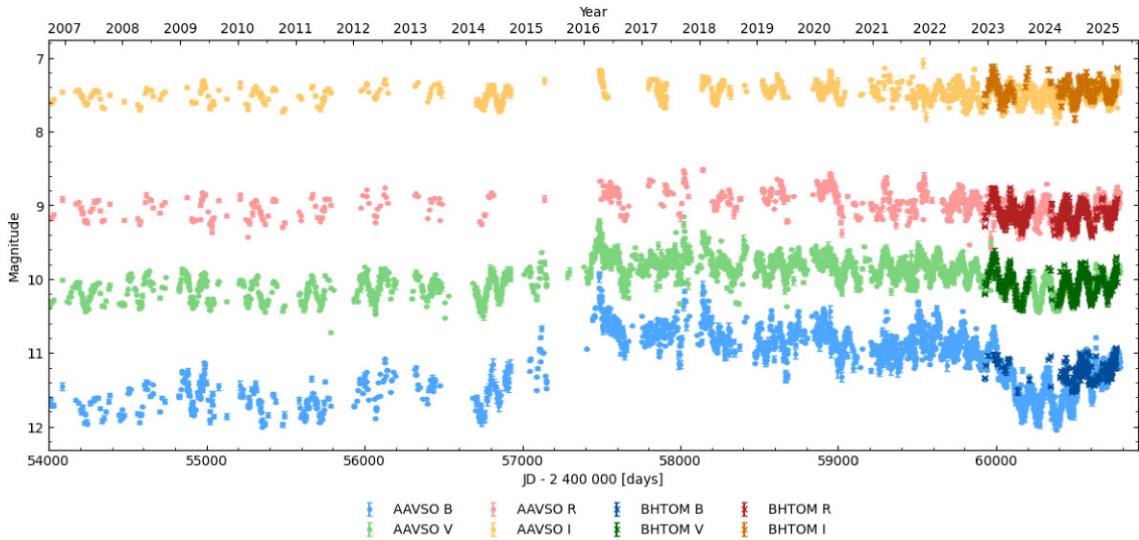


Figure 1. Recent photometric evolution of T CrB. Light curves in the B , V , R , and I bands obtained from AAVSO and BHTOM are shown. The data have been averaged over 1-d intervals (to reduce the scatter due to flickering, that is always present in the light curves; see, e.g. Ilkiewicz, Mikołajewska & Stoyanov 2023; Merc et al. 2024, and references therein) following the removal of outliers.

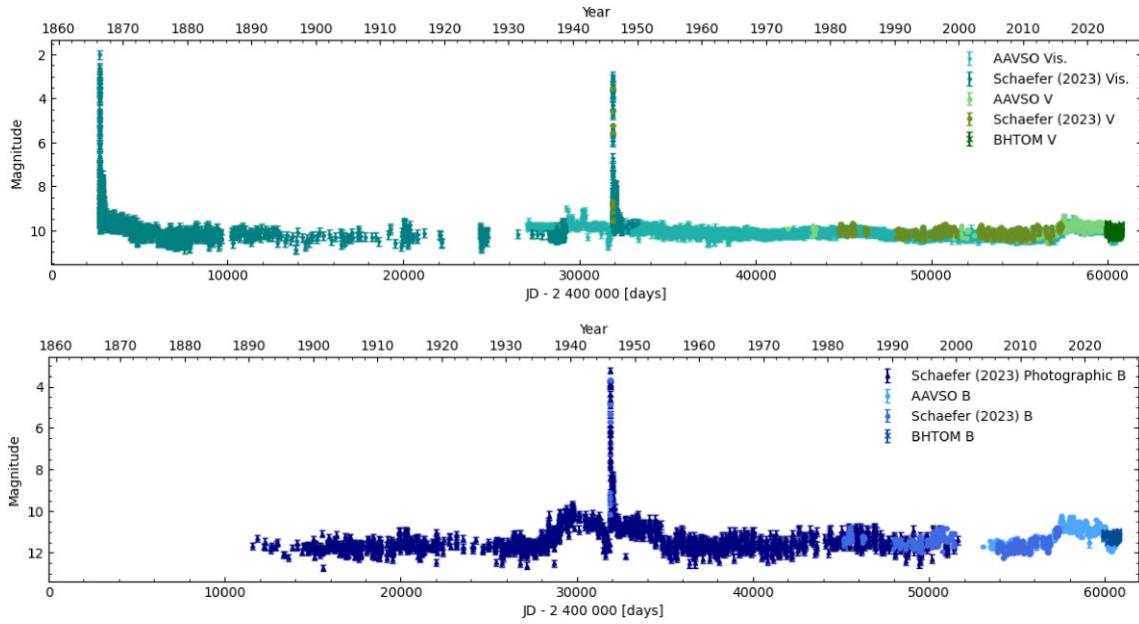


Figure 2. Long-term photometry of T CrB in the V band (upper panel) and B band (lower panel), covering the period from the 1866 outburst to 2025. AAVSO observations have been averaged over 10-d intervals. All data from Schaefer (2023b) are shown, with the exception of AAVSO data collected by the author, which are taken directly from the AAVSO database.

band observations span a large portion of the quiescent period preceding the 1946 eruption, the eruption itself, and continue almost uninterrupted to the present day. The photometric evolution during both nova events was strikingly similar, with each outburst followed, after approximately 80 d, by a rebrightening of smaller amplitude and lasting about 100 d (see e.g. figs 2 and 3 in Schaefer 2023b). The secondary maximum has been interpreted either as the result of an irradiated, tilted disc (Hachisu & Kato 1999) or, more recently, as irradiation of the red giant donor by the cooling white dwarf (Munari 2023b).

The superactive phase observed \sim 10 yr before and \sim 9 yr after the 1946 eruption (Schaefer 2023b) is clearly visible in the B light

curve. This active stage was interrupted only by the pre-eruption dip, the eruption itself, and the subsequent secondary maximum. A comparable rise in brightness has also been observed in recent years, beginning in 2014 and ending in 2023, and was interpreted as a possible precursor to the next eruption. By aligning the recent and historical light curves, some authors have attempted to predict the timing of the anticipated outburst.

A detailed comparison of the current and historical B light curves during these active phases is shown in Fig. 3, where the historical data have been shifted by 77.8 yr (28 430 d) to align the superactive phases. The similarity in photometric evolution between the two epochs is apparent. However, if this phase is causally linked to nova

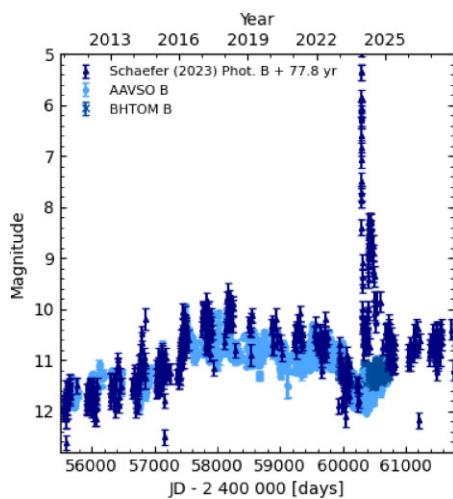


Figure 3. Comparison of the recent behaviour of T CrB in the B band with its pre-outburst evolution prior to the 1946 outburst. The historical photographic data are taken from Schaefer (2023b) and have been shifted by $+77.8$ yr (28 430 d) to align the superactive phases observed before the 1946 outburst and in the present epoch. Recent data are taken from AAVSO and BHTOM.

eruptions and follows a similar time-scale, it would imply that the eruption should have already occurred around 2024. This suggests that although the photometric behaviour observed in the decades surrounding the 1946 eruption and the present day is qualitatively similar, the detailed evolution differs to some extent. Consequently, predicting the exact time of the next eruption based on such comparisons remains challenging and demonstrates the incomplete understanding of the physical processes behind the superactive phase.

In a recent study, Ilkiewicz et al. (2023) proposed that the active phases of T CrB resemble the outbursts and superoutbursts seen in SU UMa-type dwarf novae. According to their analysis, larger active phases recur approximately every ~ 5000 d, while smaller ones occur on a ~ 1000 -d time-scale (Ilkiewicz et al. 2016; Ilkiewicz et al. 2023). These stages of increased brightness are visible in the B light curve in Fig. 2, with the ones around 1980, 1997, and the recent superactive phase reported by Ilkiewicz et al. (2023). Another brightening episode around 1966 also fits the longer recurrence period. Examples of smaller active phases are visible in Fig. 1, as discussed in Section 3.

Luna et al. (2020) argued that during these high-accretion phases, T CrB accretes a significant fraction of the mass required to ignite a thermonuclear runaway, whereas the average accretion rate in quiescence is too low to support nova outbursts on an ~ 80 -yr time-scale. Based on UBV photometry, Zamanov et al. (2023) estimated that approximately 30 per cent of the necessary mass was accumulated during the recent superactive phase. A similar conclusion follows from the accretion rate derived from optical and X-ray data by Toalá et al. (2024). Given that the recent superactive phase was the most luminous since the one surrounding the 1946 eruption, it is reasonable to assume that a large portion of the ignition mass was accreted during this time.

Taken together, it is perhaps no surprise that T CrB can reach the ignition threshold at some point during a prolonged high-accretion stage (lasting ~ 19 yr in the previous cycle), even if these two phenomena are not directly causally linked. However, the precise timing of the nova eruption also depends on the amount of mass accreted outside the major active phases, both in the post-1946 period

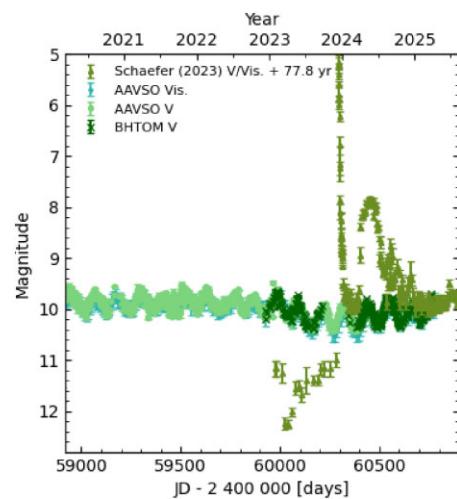


Figure 4. Recent evolution of T CrB in the V band compared with its behaviour prior to the 1946 outburst. The same temporal shift of $+77.8$ yr (28 430 d) as in Fig. 3 has been applied to align the ingress and decline of the superactive phases observed in the B band. Recent data are taken from AAVSO and BHTOM, while the historical data are from Schaefer (2023b) and represent a compilation of all available observations in the V and visual bands from the literature and AAVSO.

and more recently, making it difficult to determine the exact eruption date.

4.2 On the reported pre-eruption dip

The 1946 nova outburst was immediately (starting ~ 1 yr before the eruption) preceded by a sharp decline in brightness, referred to as the ‘pre-eruption dip’ (Schaefer 2023b). This phenomenon is particularly puzzling because, in the V band, where the dip is most pronounced, the observed brightness dropped to more than 1.5 mag below the typical quiescent level of the red giant donor itself. To explain this, Schaefer (2023b) proposed circumstellar dust obscuration as the likely cause. However, such an interpretation would imply an even stronger dimming in the bluer bands, which was not observed. The explanation thus remains an open question.

The same author argued that if a similar dip were to occur prior to a future outburst, it could serve as an excellent predictor of the eruption, with the nova expected to follow after about a year. In March–April 2023, to the excitement of the astronomical community, T CrB began to decline in brightness. This fading was interpreted by some as a new pre-eruption dip (Schaefer et al. 2023; Toone 2023), and based on this assumption, Schaefer et al. (2023) predicted the eruption to occur around 2024.4 ± 0.3 . No outburst was observed, though.

This decline, marking the apparent end of the recent superactive phase (Munari 2023a), is clearly visible in both B and V light curves of T CrB. To compare the current evolution with historical data, we again shifted the archival light curve by 77.8 yr (28 430 d). As shown in Fig. 3, the decline in the B band aligns remarkably well with the one observed before the 1946 eruption. However, the behaviour in the V band is notably different (Fig. 4). This time, no deep decline is observed; instead, T CrB returned to its typical quiescent brightness level before beginning to brighten again (see Section 3).

The comparison between the recent and historical light curves suggests three possible interpretations. First, there may be no direct causal link between the nova outburst and the pre-eruption dip. In that case, similar behaviour may not necessarily precede future

eruptions and the absence of a dip would not preclude an imminent outburst. Second, the observed minimum in 2023 might represent a pre-eruption dip, but its evolution significantly differs from the deep and prolonged dip observed before the 1946 outburst. This suggests that such a feature, even if present, does not provide a reliable predictor of eruption timing. Third, it is possible, although probably unlikely, that the ‘true’ pre-eruption dip, regardless of its physical origin, has not yet occurred. If this feature does in fact act as a consistent precursor to eruption, then the nova outburst is unlikely to occur within the next year. It is worth noting that similar behaviour has not been confirmed in any other nova to date, with only a tentative hint of a very mild decline reported by Zamanov et al. (2024) before the outburst of RS Oph.

4.3 When will T CrB erupt?

It appears challenging to precisely predict the timing of the next eruption based on comparisons between the current behaviour of T CrB and its historical pre-outburst evolution. If one considers only the timing of the superactive phases, the eruption should have already occurred. The same conclusion follows if the recent decline in brightness is interpreted as the pre-eruption dip.

The interval between the peaks of the 1866 and 1946 outbursts was 29 125 d, or 79.7 yr (Schaefer 2023b), which would place the next eruption in November 2025 if the exactly same recurrence time is assumed. Alternatively, if the 18th-century eruption occurred around 1787 December 20, as proposed by Schaefer (2023a), then the time elapsed until the 1866 outburst was approximately 28 633 d (78.4 yr), which would predict the next eruption in July 2024. Taking the average of these two intervals suggests an expected eruption around March 2025. Furthermore, Schaefer (2023a) calculated that if the transient observed in 1217 also corresponds to a T CrB outburst, the average recurrence time from 1217 to 1946 would be about 80.9 yr. This would place the expected nova eruption near the boundary of 2026 and 2027.

However, the recurrence intervals discussed above clearly demonstrate that T CrB (and recurrent novae in general) do not follow a strictly periodic pattern. The recent rise in brightness suggests that T CrB is once again entering a phase of elevated accretion. This interpretation is supported by spectroscopic observations, which show the reappearance and strengthening of emission lines (e.g. Balmer lines of H I, He II) (e.g. Teyssier et al. 2024; Hristova et al. 2025; Moraitis et al. 2025; Schaffenroth et al. 2025). These features had previously vanished or become significantly weaker following the conclusion of the superactive phase in 2023 (Munari 2023a; Stoyanov et al. 2025).

Given that the system is expected to have already accreted most of the mass required for ignition, it is plausible that T CrB will soon reach the threshold, maybe without any clear early warning.

The timing of the upcoming eruption may also influence the timing of the subsequent nova event in the early years of the next century. If the post-outburst high-accretion phase is shorter than the one that followed the 1946 eruption (assuming a similar total duration of around 19 yr, but with the anticipated eruption occurring later within this phase) then the next eruption of T CrB could occur at the end of, or even after, a comparable future high-accretion stage, should such a stage recur again in about 80 yr.

5 CONCLUSIONS

The comparison of the recent photometric evolution of T CrB with its historical pre-outburst behaviour, particularly that preceding the 1946

eruption, reveals that although the superactive phases were remarkably similar, the subsequent evolution diverged. If the recent decrease in brightness represents a pre-eruption dip, its characteristics differ significantly from those observed prior to the 1946 outburst. Neither the superactive phase nor the recent fading event have, so far, reliably predicted the onset of the eruption. At the same time, the system now appears to be entering a new phase of elevated accretion. Given that it is likely already near the critical ignition threshold, this may indicate that the eruption is imminent, though it could arrive without distinctive or predictable photometric signatures.

In considering all the predictions and analyses, it is also important to acknowledge an aspect that extends beyond the scientific domain. The next eruption of T CrB is not only a highly anticipated event within the astronomical community, but also one that has captured the attention of the wider public and media. This offers a unique opportunity to engage the public in the field of time-domain and transient astronomy.

However, it is crucial to emphasize that predicting the exact timing of such an event remains inherently uncertain. While there have been attempts (particularly in the non-refereed literature) to assign a specific date to the eruption, these should be approached with caution. Headlines forecasting ‘an extraordinary celestial performance visible next Wednesday’ may not reflect the scientific reality.

Moreover, while the eruption of T CrB will undoubtedly be a rare and scientifically significant event, monitored across the electromagnetic spectrum and likely among the brightest transients seen in decades, public expectations should be tempered with realistic context. The nova is expected to reach a peak brightness of approximately $V \sim 2$ mag, comparable to Polaris, but also to less widely known stars such as Alphard, Hamal, or Diphda. At the time of maximum light, T CrB will still be fainter than roughly 50 other stars in the sky, and the eruption will not feature any dramatic visual phenomena. Referring to it as a celestial ‘firework’ is therefore misleading. Ensuring that the public receives accurate and appropriately scaled information is essential for fostering a meaningful and informed appreciation of this remarkable astronomical event.

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DATA AVAILABILITY

Our photometric data are available as supplementary material to this article. New BHTOM photometry is available from <http://bhtom.space/public/targets/TCrB>. Other photometric data used in this work are available directly from the AAVSO data base and as supplementary material to Schaefer (2023b).

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SUPPORTING INFORMATION

Supplementary data are available at [MNRASL](https://mnras.oxfordjournals.org) online.

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